WHAT IS CLAIMED IS:

1. A method of generating a continuous parametric model of an electronic circuit parameter having a base model, comprising the steps:

determining whether the base model exhibits at least one discontinuity over an allowable range of parameters;

if the base model exhibits at least one discontinuity, applying at least one compensation function to prevent the base model from exhibiting discontinuities over the allowable range of parameters;

determining whether the first derivative of the base model exhibits at least one discontinuity over the allowable range of parameters; and

if the first derivative of the base model exhibits at least one discontinuity, applying at least one compensation constant to prevent a first derivative of the base model from exhibiting discontinuities over the permissible parametric range.

2. The method of claim 1 wherein the base model takes the form

$$A_{eff} = A_0 - \frac{1}{2}[(A_0 - A - \delta) + \sqrt{(A_0 - A - \delta)^2 + 4 \bullet \delta \bullet A_0}].$$

3. The method of claim 2, wherein the at least one compensation function is substituted into the base model in place of the constant term δ in the base model.

4. The method of claim 3, wherein the at least one compensation function takes the form of $\theta(A_0) = \frac{A_0}{K}$.

5. The method of claim 4, wherein the at least one compensation function further comprises a second compensation function which is substituted for the term A_0.

6. The method of claim 5, wherein the second compensation function takes the form, $A_0^* = A_0 + \Delta \bullet \exp(-A_0^2)$, where Δ is a constant having a value significantly less than A_0.

7. The method of claim 6, wherein the compensation constant Δ is applied to the base model and the resulting enhanced continuous parametric model is represented as

$$A_{eff} = A_0 - \frac{1}{2}\left\{ (A_0 - A - \theta - \Delta) + \sqrt{(A_0 - A - \theta)^2 + 4\theta A_0 + 2\sqrt{A_0^2}\Delta + 2\sqrt{\theta^2} \bullet \Delta + \Delta^2} \right\}.$$

8. The method of claim 7, wherein A_{eff}, A_0 and A represent voltage parameters of an electronic component.

9. The method of claim 7, wherein A_{eff}, A_0 and A represent current parameters of an electronic component.

10. The method of claim 7, wherein A_{eff}, A_0 and A represent power parameters of an electronic component.

11. A continuous parametric model of a physical circuit element comprising:

a base model, said base model defining a representation of the circuit element, said base model exhibiting at least one of a discontinuity over an allowable range of model parameters and a discontinuity in the first derivative of the allowable range of model parameters;

at least one compensation function to remove the discontinuities of the base model over the allowable range of parametric values; and

at least one compensation constant to prevent a first derivative of the base model from exhibiting discontinuities over the allowable range of parameters.

12. The continuous parametric model method of claim 11, wherein the base model takes the form

$$A_{eff} = A_0 - \frac{1}{2}[(A_0 - A - \delta\} + \sqrt{(A_0 - A - \delta)^2 + 4 \bullet \delta \bullet A_0}\,].$$

13. The continuous parametric model method of claim 12, wherein the at least one compensation function is substituted into the base model in place of the constant term δ in the base model.

14. The continuous parametric model method of claim 13, wherein the at least one compensation function takes the form of $\theta(A_0) = \frac{A_0}{K}$.

15. The continuous parametric model method of claim 14, wherein the at least one compensation function further comprises a second compensation function which is substituted for the term A_0.

16. The continuous parametric model method of claim15, wherein the second compensation function takes the form $A_0^* = A_0 + \Delta \bullet \exp(-A_0^2)$, where Δ is a constant having a value significantly less than A_0.

17. The continuous parametric model method of claim 16, wherein the compensation constant Δ is applied to the base model and the resulting enhanced continuous parametric model is represented as

$$A_{eff} = A_0 - \frac{1}{2}\left\{ (A_0 - A - \theta - \Delta) + \sqrt{(A_0 - A - \theta)^2 + 4\theta A_0 + 2\sqrt{A_0^2}\,\Delta + 2\sqrt{\theta^2} \bullet \Delta + \Delta^2} \right\}.$$

18. The continuous parametric model method of claim 17, wherein A_{eff}, A_0 and A represent voltage parameters of an electronic component.

19. The continuous parametric model method of claim 17, wherein A_{eff}, A_0 and A represent current parameters of an electronic component.

20. The continuous parametric model method of claim 17, wherein A_{eff}, A_0 and A represent power parameters of an electronic component.